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Detection of Hepatitis C Virus 5' Noncoding RNA in Serum Samples

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Objective: To evaluate the level of 5' noncoding region (copies/ml) of Hepatitis C Virus and correlate that with the clinical and laboratory parameters.

Design: Experimental controlled trial.

Setting: National Hospital, Riyadh, Saudi Arabia.

Method: Sixty-four patients were included in this study, 47 patients were sero-positive for anti-HCV antibodies by third generation enzyme immunometric assay (EIA). Quantitative and qualitative HCV 5' noncoding RNA from serum samples was detected by nested PCR. Another four serum patients' samples were investigated for hepatitis C virus genotyping. In addition to 13 normal control subjects were included in this study.

Result: Alanine transaminase (ALT) levels were raised during the acute infection (mean 83.51). The clinical features were varied from 23 (45%) asymptomatic patients to 17 (33%) who had jaundice, 46 (90%) complained from fatigue and 34 (66.6%) had nausea and vomiting.

Among the 51 HCV-RNA positive samples obtained from patients, 12 samples had below 2,000 copies of HCV-RNA/ml, 4 had between 2,001 and 15,000 copies, 3 had between 15,001 and 50,000 copies, 4 had between 50,001 and 100,000 copies, 9 had between 100,001 and 300,000 copies, and 19 had over 300,000 copies of HCV-RNA/mL.

Conclusion: 5' noncoding region of HCV could completely distinguish between genotype and subtype of HCV and these could be important for the initiation of treatment.

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